



(P/N 6509 shown)



#### PRODUCT DESCRIPTION

6509—2.25" Round Cartridge Spindle, 3/4-16/#1 Morse nose, cog timing belt pulley

6510—Same as above but with 2-step pulley

6511—2.25" Round Cartridge Spindle, ER-16 nose, cog timing belt pulley

6512—Same as above but with 2-step pulley

## Industrial 2.25" Round Cartridge Spindle

P/N 6509, 6510, 6511, 6512

### Installing the Spindle

The Sherline Round cartridge spindle has a 2.25" diameter body and was designed to be mounted through a hole of 2.3". It is attached using the three holes provided in the flange. They are on a 2.676" diameter bolt circle with 3 holes at 120° increments around the bolt circle diameter. The face of the spindle sticks out 1.0" beyond the front surface of the flange. The mounting holes are 0.2" diameter with a 0.325" diameter countersink and are sized for 10-32 x 5/8" socket head cap screws (supplied).

### Adjusting the Spindle Bearing Preload

The spindle preload is set at the factory to .0002" of endplay for normal use. This is considered to be spindle speeds below 3000 RPM. For spindle speeds between 3000 and 10,000 RPM it is suggested that the endplay be set to at least .0003" to keep the bearings from overheating during continuous use. The bearings are not rated for use over 10,000 RPM.

If excess endplay develops in the main spindle, it can be easily eliminated by readjusting the preload nut. If extended running causes the headstock to be too hot to touch, the preload tension can be reduced slightly.

To change the adjustment, remove the spindle pulley, loosen the set screw in the preload nut and back the preload nut off 4° of rotation (counterclockwise). The bearings are lightly pressed into the case, so the inner race will not move without a sharp tap with a plastic mallet to the end of the spindle where the pulley is attached.

If you find your bearings are set too loose, you may want to take up on the endplay. You can check them with an indicator or by spinning the spindle without the motor belt engaged. If the spindle spins freely with a chuck or faceplate on it, the spindle is too loose for normal work. Adjust the preload nut until it turns only about one and one-half revolutions when spun by hand.

Thank you,  
Sherline Products Inc.

### Parts List

NO. REQ.	PART NO.	DESCRIPTION
1-2*	31080	10-32 x 3/8" Set Screw
1	40160	Preload Nut
1	40230	Spindle, 3/4-16 (6509, 6510)
1	65023	Spindle, ER-16 (6511, 6512)
1	40320	Bearing Dust Cover Washer
2	40420	Headstock Bearing
2	40440	#2 x 14" Self-Tapping Bearing Washer Screws
2	40600	10-32 X 1/4" Flat PT Set Screw
1	43230	2-Step V-Belt Pulley (6510, 6512)
1	65016	Cog Timing Belt Pulley (6509, 6511)
1	65041	2.25" Round Cartridge Spindle Body
1	65026	ER-16 collet nut (6511, 6512)

\*1 set screw required for pulley on P/N 6510 and 6512, 2 set screws used on cog pulley, P/N 6509 and 6511